

REMARKS

Claims 1-22 were examined. By present amendment, claim 17 was amended to more particularly point out and distinctly claim the subject matter that the Applicant regards as the invention by reciting "...modifying the amplitude of the current..." Claims 18-20 were amended to conform with the amendment to claim 17. No claims were canceled. No new claims were added. Thus, after entry of this Amendment, claims 1-22 will remain pending in the application.

Request for Acknowledgment of Priority

Applicant respectfully requests acknowledgment of entry of Applicant's priority papers, which were submitted on August 31, 2001.

Allowable Subject Matter

Applicant gratefully acknowledges the allowance of the Examiner's indication that claims 5-15, 19 and 20 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Rejections under 35 U.S.C. §102(b)

A. Claims 1-4 and 16 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,889,401 to Jourdain et al. (Jourdain). The Patent Office stated that changing the frequency is considered the changing of the mode of operation as claimed.

Applicant respectfully disagrees.

Independent claim 1 is directed to an instrument having two modes of operation. In each mode, the instrument is operative to make coating thickness measurements and the resolution with which measurements can be made in each mode differs, one being greater than the other.

In contrast, when taken as a whole, Jourdain fails to disclose any reference to two modes of operation within the meaning of the present application. The apparatus disclosed in Jourdain relies upon using two different frequencies in order to make a measurement but the use of two frequencies is required to produce an accurate measurement. The use of the two frequencies cannot be considered to be two different modes of operation. Likewise, the apparatus relies upon the use of two mathematical models in combination to arrive at a result. The two models cannot be considered to be two different modes of operation because each model, alone, cannot be used to obtain a result. Consequently, we believe that Jourdain is of no more than passing relevance to the present invention.

Because each and every element of claim 1 is not disclosed in any of the cited references, it is not anticipated and is allowable. The claims that depend from claim 1 directly or indirectly also is not anticipated. Withdrawal of the rejection is respectfully requested.

In addition, Jourdain fails to provide any teaching or suggestion to provide two modes of operation, or any advantage that might result from this. Thus, any motivation to provide two modes of operation is missing from Jourdain. Thus, Jourdain also fails to render obvious claims 1-16.

B. Claims 17, 18, 21 and 22 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,005,359 to Smoot. The Patent Office stated that changing the coupling of the transformer is considered providing two modes of operation.

Applicant respectfully disagrees.

Claim 17 as amended is directed to an instrument operating in one of the modes of operation disclosed in the application. This mode relies upon modifying the amplitude of the current in the drive coil in dependence upon the output of the pick-up coil in order to avoid saturation of the pick-up coil and therefore extend the measurement range of the instrument.

In contrast, the apparatus disclosed in Smoot uses a feed back control loop to alter the frequency (rather than the amplitude) of drive current in the drive coil. Consequently, Smoot fails to disclose or suggest the invention claimed by amended claim 17.

Because each and every element of claim 17 is not disclosed in any of the cited references, it cannot be anticipated and is allowable. The claims that depend from claim 1 directly or indirectly are allowable for at least the same reasons. Withdrawal of the rejection is respectfully requested.

In addition, Smoot fails to provide any teaching or suggestion that the amplitude of the current could or should be controlled, or any advantage that might result from this. Thus, any motivation to alter the amplitude rather than the frequency is missing from Smoot. Thus, Smoot also fails to render obvious claims 17-22.

CONCLUSION

In view of the foregoing amendments and remarks, the Applicant respectfully submits that all of the claims pending in the above-identified application are in condition for allowance, and a notice to that effect is earnestly solicited.

If the present application is found by the Examiner not to be in condition for allowance, then the Applicant hereby requests a telephone or personal interview to facilitate the resolution of any remaining matters. Applicant's attorney may be contacted by telephone at the number indicated below to schedule such an interview.

Art Unit: 2862
Serial No:09/900,750

The U.S. Patent and Trademark Office is authorized to charge any additional fees incurred as a result of the filing hereof or credit any overpayment to our deposit account #19-0120.

Respectfully submitted,
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Version with marking to show changes to claims

17. (Amended Once) A coating thickness measuring instrument, comprising:
- an inductive probe having a drive coil and a pickup coil;
 - a means for driving an alternating current in the drive coil;
 - a means for detecting the output of the pickup coil; and
 - a means for modifying the amplitude of the current in the drive coil in dependence upon the output of the pickup coil.
18. (Amended Once) The instrument of claim 17, wherein the means for modifying the amplitude of the current in the drive coil comprises a control loop which is switchable in and out of operation to provide two modes of operation for the instrument.
19. (Amended Once) The instrument of claim 18, wherein the means for modifying the amplitude of the current in the drive coil comprises a first control loop which is switchable in and out of operation to provide two modes of operation for the instrument and wherein the means for driving a current in the drive coil comprises a second control loop arranged to maintain the amplitude of current in the drive coil at a substantially constant level.
20. (Amended Once) The instrument of claim 17, wherein the means for modifying the amplitude of the current in the drive coil comprises a first control loop which is switchable in and out of operation to provide two modes of operation for the instrument and wherein the means for driving comprises an amplitude controlled oscillator and the first control loop is implemented by a current to voltage rectifier, a low pass filter and an error amplifier.